Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Red River Environmental Products, LLC
Activated Carbon Facility
Armistead, Red River Parish, Louisiana
Agency Interest Number: 152139
Activity Number: PER20070001
Proposed Permit Number: 2420-00027-V0

I. APPLICANT

Company:
Red River Environmental Products, LLC
8100 South Park Way Unit B
Littleton, Colorado 80120

Facility:
Activated Carbon Facility
Parish Road 604
Armistead, Red River Parish, Louisiana
Latitude 32° 0' 19", Longitude 93° 23' 28"

II. FACILITY AND CURRENT PERMIT STATUS

Red River Environmental Products, LLC (RREP) is submitting an application to the Louisiana Department of Environmental Quality (LDEQ) for a construction and Part 70 operating air permit for a greenfield activated carbon (AC) manufacturing facility in Red River Parish.

This is the initial Part 70 operating permit for the Greenfield facility and includes initial Permit Number PSD-LA-727.

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The facility submitted an application for an initial Part 70 permit. The sources include:

Permit No.	Unit or Source	Date Issued
2420-00027-V0	EP - 101 Production Line No. 1	
	EP - 201 Production Line No. 2	
	EP - 106 Cooling Tower No. 1	
	EP – 206 Cooling Tower No. 2	
	EP - 901 Coal unloading area	
	EP - 902 Coal crusher area	
	EP - 903 Coal Storage	
	EP-904 Emergency Fire Water Pump	
	EP-107 MHF Product Blower	
	EP-108 GAC screening and transfer	
	EP-109 Mill area	
	EP-111 Product Day Silo 1A Bin Vent	
	EP-112 Product Day Silo 1B Bin Vent	
	EP-113 Product Day Silo 1C Bin Vent	
	EP-115 GAC Rail Storage Transfer	
	EP-116 Rail Product Storage Silo 1A receiver	
	EP-117 Rail Product Storage Silo 1B Receiver	
	EP-118 Rail Product Storage Silo 1C Receiver	
	EP-119 Rail Product Storage Silo 1D Receiver	
	EP-120 Rail Product Storage Silo 1E Receiver	
	EP-121 Rail Product Storage Silo 1F Receiver	
	EP-122 Rail Product Storage Silo 1G Receiver	
	EP-123 Rail Product Storage Silo 1A Bin Vent	
	EP-124 Rail Product Storage Silo 1B Bin Vent	
	EP-125 Rail Product Storage Silo 1C Bin Vent	
	EP-126 Rail Product Storage Silo 1D Bin Vent	
	EP-127 Rail Product Storage Silo 1E Bin Vent	
	EP-128 Rail Product Storage Silo 1F Bin Vent	
	EP-129 Rail Product Storage Silo 1G Bin Vent	
	EP-130 Railcar Loading from Storage Silo 1A	
	EP-131 Railcar Loading from Storage Silo 1B	
	EP-132 Railcar Loading from Storage Silo 1C	
	EP-133 Railcar Loading from Storage Silo 1D	
	EP-134 Railcar Loading from Storage Silo 1E	
	EP-135 Railcar Loading from Storage Silo 1F	
	EP-136 Railcar Loading from Storage Silo 1G	
	EP-137 GAC Truck Storage Transfer	
	EP-138 Truck Product Storage Silo 1A Receiver	

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Permit No.	Unit or Source	Date Issued
2420-00027-V0	EP-139 Truck Product Storage Silo 1B Receiver	
	EP-140 Truck Product Storage Silo 1C Receiver	
	EP-141 Truck Product Storage Silo 1D Receiver	
	EP-162 Truck Product Storage Silo 1E Receiver	
	EP-163 Truck Product Storage Silo 1F Receiver	
	EP-164 Truck Product Storage Silo 1G Receiver	
	EP-142 Truck Product Storage Silo 1A Bin Vent	
	EP-143 Truck Product Storage Silo 1B Bin Vent	
	EP-144 Truck Product Storage Silo 1C Bin Vent	
	EP-145 Truck Product Storage Silo 1D Bin Vent	
	EP-165 Truck Product Storage Silo 1E Bin Vent	
	EP-166 Truck Product Storage Silo 1F Bin Vent	
	EP-167 Truck Product Storage Silo 1G Bin Vent	
	EP-146 Truck Loading From Storage Silo 1A	
	EP-147 Truck Loading From Storage Silo 1B	
	EP-148 Truck Loading From Storage Silo 1C	
	EP-149 Truck Loading from storage silo 1D	
	EP-168 Truck Loading from Storage Silo 1E	
	EP-169 Truck Loading from Storage Silo 1F	
	EP-170 Truck Loading form Storage Silo 1G	
	EP-150 Coal Day Silo Transfers	
	EP-151 Recycle Solids Blower	
	EP-152 Recycle Solids Bin Vent	
	EP-153 Lime Storage Silo Bin Vent	
	EP-154 Solids Storage Silo Bin Vent	
	EP-155 Solids Blower	
	EP-156 Truck Loading from Solids Silo	
	EP-158 MHF product mechanical conveyance	
	EP-160 Lime Storage Silo Receiver	

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Permit No.	Unit or Source	Date Issued
2420-00027-V0	EP-161 Screened MHF Product Blower	
	EP-207 MHF product blower	
	EP-208 GAC screening and transfer	
	EP-209 Mill area	
	EP-211 Product day silo 2A bin vent	
	EP-212 Product day silo 2B bin vent	
	EP-213 Product day silo 2C bin vent	
	EP-215 GAC rail storage transfer	
	EP-216 Rail product storage silo 2A receiver	
	EP-217 Rail product storage silo 2B receiver	
	EP-218 Rail product storage silo 2C receiver	
	EP-219 Rail product storage silo 2D receiver	
	EP-220 Rail product storage silo 2E receiver	
	EP-221 Rail product storage silo 2F receiver	
	EP-222 Rail product storage silo 2G receiver	
	EP-223 Rail product storage silo 2A bin vent	
	EP-224 Rail product storage silo 2B bin vent	
	EP-225 Rail product storage silo 2C bin vent	
	EP-226 Rail product storage silo 2D bin vent	
	EP-227 Rail product storage silo 2E bin vent	
	EP-228 Rail product storage silo 2F bin vent	
	EP-229 Rail product storage silo 2G bin vent	
	EP-230 Railcar loading from storage silo 2A	
	EP-231 Railcar loading from storage silo 2B	
	EP-232 Railcar loading from storage silo 2C	
	EP-233 Railcar loading from storage silo 2D	
	EP-234 Railcar loading from storage silo 2E	
	EP-235 Railcar loading from storage silo 2F	
	EP-236 Railcar loading form storage silo 2G	
	EP-237 GAC truck storage transfer	
	EP-238 Truck product storage silo 2A receiver	
	EP-239 Truck product storage silo 2B receiver	
	EP-240 Truck product storage silo 2C receiver	
	EP-241 Truck product storage silo 2D receiver	
	EP-262 Truck product storage silo 2E receiver	
	EP-263 Truck product storage silo 2F receiver	
	EP-264 Truck product storage silo 2G receiver	
	EP-242 Truck product storage silo 2A bin vent	
	EP-244 Truck product storage silo 2C bin vent	
	EP -243 Truck product storage silo 2B bin vent	
	EP-245 Truck product storage silo 2D bin vent	

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Permit No.	Unit or Source	Date Issued
2420-00027-V0	EP-265 Truck product storage silo 2E bin vent	
	EP-266 Truck product storage silo 2F bin vent	
	EP-267 Truck product storage silo 2G bin vent	
	EP-246 Truck loading from storage silo 2A	
	EP-247 Truck loading from storage silo 2B	
	EP-248 Truck loading from storage silo 2C	
	EP-249 Truck loading from storage silo 2D	
	EP-268 Truck loading from storage silo 2E	
	EP-269 Truck loading from storage silo 2F	
	EP-270 Truck loading from storage silo 2G	
	EP-250 Coal day silo transfers	
	EP-251 Recycle solids blower	
	EP-252 Recycle solids bin vent	
	EP-253 Lime storage silo bin vent	
	EP-254 Solids storage silo bin vent	
	EP-255 Solids blower	
	EP-256 Truck loading from solids silo	
	EP-258 MHF product mechanical conveyance	
	EP-260 Lime storage receiver	
	EP-261 Screened MHF product blower	
	EP-157 Activated Carbon Hg Adsorption System	
	EP-257 Activated Carbon Hg Adsorption System	

In addition, PSD Permit PSD-LA-727 is pending for the Red River Environmental Products, LLC - Activated Carbon Facility.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by ADA-ES, Inc. on August 2, 2007, requesting an initial Part 70 operating permit. Additional information was received on August 20, 2007, October 3, 2007, and November 2, 2007.

Project

RREP is proposing to construct a greenfield facility dedicated to the production of activated carbon (AC), to enable the power generation industry to meet their impending mercury emission control requirements. The facility will use coal as a feedstock in the AC manufacturing process. The proposed site is adjacent to an

active coal mine. The facility will consist of dual production lines; each line will have a production capability of roughly 175 million pounds of AC per year.

Carbon is typically activated by either steam or chemical treatment; RREP will be employing the steam activation process for the proposed Project. Steam activation involves two steps: carbonization and activation. Carbonization involves the conversion of the raw material (such as coal) into a disordered carbon structure with a very low volatile content. Carbonization (removing the coal volatiles) begins occurring at approximately 400 °F and continues to about 1,300 °F. Once the volatiles are driven off, activation begins to occur in the presence of steam between 1,300 and 1,800 °F. As steam reacts with the carbon in the coal to form hydrogen and CO, a highly porous, AC structure is developed. Controlled amounts of air are added to burn the by-product hydrogen and CO gases, resulting in a net exothermic and self-sustaining process.

The proposed process is continuous and centers on the activation furnaces where the coal is dried, pyrolyzed and activated with steam. The coal is fed into the top of each furnace onto the first hearth where it meets hot gases exiting the second hearth. The water vapor emitted from the coal on the top hearth mixes with the gases coming from the second hearth and exits at the top of the furnace. The partially dried coal moves towards the perimeter of the first hearth by a continuous rotating system of rabble or rake arms, and then falls by gravity through drop holes onto the second hearth. The second hearth rabble arms move the material toward the center of the second hearth, where it falls through a drop hole to the third hearth and continues through the subsequent hearths in this manner. Concurrently, the gases and water vapor emitted from the coal move vertically upward from hearth to hearth mixing with the gases on the hearth above until the by-product/waste gas exits at the top of the multi-hearth furnace (MHF). As it drops through the hearths, the coal continues to dry and pyrolyze to a char, then is activated by the injection of steam to produce the AC product.

Proposed Permit

Permit No. 2420-00027-V0 will be the initial Part 70 operating permit for the Red River Environmental Products, LLC - Greenfield Activated Carbon Facility. Permit No. PSD-LA-727 will be the Prevention of Significant Deterioration Permit for the Red River Environmental Products, LLC - Greenfield Activated Carbon Facility.

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Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Emissions in tons per year
PM_{10}	423.9
SO_2	638.2
NO_X	677.2
CO	329.8
VOC	314.7

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs): in tons per year		Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs): in tons per year	
Pollutant	Emissions	Pollutant	Emissions
1,1,2,2 –Tetrachloroethane	<0.001	Ammonia	18.43
1,1,2-Trichloroethane	<0.001	Antimony (and compounds)	<0.001
1, 1- Dichloroethane	<0.001	Arsenic (and compounds)	<0.001
1, 2- Dichloroethane	<0.001	Barium (and compounds)	0.785
1, 2- Dichloropropane	<0.001	Beryllium (Table 51.1)	0.004
1, 3- Butadiene	<0.001	Cadmium (and compounds)	0.008
2, 4- Dinitrotoluene	<0.001	Chromium VI (and compounds)	0.048
Acetaldehyde	0.003	Copper (and compounds)	0.024
Acetophenone	<0.001	Hydrogen Chloride	3.38
Acrolein	0.001	Hydrogen Fluoride	2.23
Benzene	0.004	Hydrogen Sulfide	0.34
Benzyl Chloride	0.002	Lead compounds	0.001
Biphenyl	<0.001	Manganese (and compounds)	0.145
Bromoform	<0.001	Mercury (and compounds)	0.022
Carbon Disulfide	<0.001	Nickel (and compounds)	0.025
Carbon Tetrachloride	<0.001	Selenium (and compounds)	0.001
Chlorinated Dibenzo-P-Dioxins	<0.0001	Sulfuric Acid	9.78

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VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs): in tons per year		Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs): in tons per year	
Pollutant	Emissions	Pollutant	Emissions
Chlorinated Dibenzofurans	<0.0001	Zinc (and compounds)	0.004
Chlorobenzene	<0.001		
Chloroethane	<0.001		
Chloroform	<0.001		
Cyanide compounds	0.008		
Ethyl Benzene	<0.001		
Formaldehyde	0.001		
Hexachlorobenzene	<0.001		
Methyl Bromide	<0.001		
Methyl Chloride	0.005		
Methyl Ethyl Ketone	0.001		
Naphthalene	<0.001		
Polynuclear Aromatic Hydrocarbons	<0.001		
Propionaldehyde	0.001		
Styrene	<0.001		
Toluene	0.001		
Vinyl Acetate	<0.001		
Vinyl Chloride	<0.001		
Xylene (mixed isomers)	<0.001		
Total	0.033		35.22

Pollutant	
Other VOC (TPY):	314.7

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
UNF 1	Chemical Accident Prevention and Minimization of Consequences LAC 33:III, Chapter 59 (State)	Exempt – Does not store a regulated substance over threshold quantity.
EQT 162	Emission Standards for Sulfur Dioxide [LAC 33:III.Chapter 15]	Not Applicable. Unit emit less than 5 tons of SO_2 per year. [LAC 33:III.1502.A]

Prevention of Significant Deterioration/Nonattainment Review

Red River Environmental Products, LLC (RREP) is proposing to construct a Greenfield facility dedicated to the production of activated carbon (AC), to enable the power generation industry to meet their impending mercury emission control requirements. The facility will use coal as a feedstock in the AC manufacturing process. The proposed site is adjacent to an active coal mine. The facility will consist of dual production lines; each line will have a production capability of roughly 175 million pounds of AC per year.

Estimated emissions in tons per year are as follows:

Pollutant	Emissions In Tons Per Year	PSD Significant Levels	PSD Review Required
PM_{10}	423.9	15	Yes
SO_2	638.2	40	Yes
NO_X	677.2	40	Yes
CO	329.8	100	Yes
VOC	314.7	40	Yes
Sulfuric acid	9.78	7	Yes

PM_{10}, NO_X, CO, SO_2, VOC, and sulfuric acid emissions are above PSD significant emissions levels and must undergo PSD analysis. Control of PM_{10}, NO_X, CO, SO_2, VOC, and sulfuric acid emissions were analyzed using a "top down" approach.

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Summary of Bact Analysis

BACT analysis summary for MHFs

Pollutant	BACT*	Description of Control Technology	Compliance Method
CO	37.6 lb/hr (3-hr avg.)	Afterburner and good combustion practices	Stack test
VOC	35.9 lb/hr (3-hr avg.)	Afterburner and good combustion practices	Stack test
NO_x	77.3 lb/hr (12-mo. rolling)	Combustion controls (including low-NO_x burners) and SNCR	CEMS; stack test
SO_2	101.2 lb/hr (30-day rolling)	SDA system	CEMS; stack test
H_2SO_4	1.55 lb/hr (3-hr avg.)	SDA system and fabric filter baghouse	Stack test
PM/PM_{10}	FPM: 10.2 lb/hr FPM + CPM: 48.3 lb/hr (3-hr avg.)	Cyclone, afterburner, SDA system and fabric filter baghouse	Stack test
* Rates given are per production line. Note: Although not specifically subject to BACT, RREP will voluntarily use AC injection for mercury control.			

Additionally, the proposed suite of emission control technologies (combination of afterburner with low-NO_x burners, SNCR, SDA, and fabric filter baghouse) also serves as BACT for opacity.

Material Handling Equipment/Haul Roads

The proposed BACT for the material handling sources is enclosures and/or dust collectors. The proposed BACT for minimizing fugitive dust generation from truck traffic is to pave all facility haul roads.

Cooling Towers

The proposed BACT for the cooling towers is a design with drift eliminators to minimize PM_{10} emissions.

Fire Water Pump

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The proposed BACT for the fire water pump diesel engine is good engine design, low-sulfur diesel fuel and an annual operating limit of 100 hours per year to minimize potential PSD-regulated pollutant emissions

The emission rates that reflect BACT for the various sources located at this facility are represented in the following table:

MAXIMUM ALLOWABLE EMISSIONS RATES

ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 1	EP - 101 Production Line No. 1	lb/hr TPY	57.96 209.7	121.44 319.10	92.76 338.40	45.12 164.80	43.08 157.30	1.86 4.89
EQT 2	EP - 201 Production Line No. 2	lb/hr TPY	57.96 209.7	121.44 319.10	92.76 338.40	45.12 164.80	43.08 157.30	1.86 4.89
EQT 3	EP - 106 Cooling Tower No. 1	lb/hr TPY	0.41 1.48	-	-	-	-	-
EQT 14	EP-107 MHF Product Blower	lb/hr TPY	0.02 0.05	-	-	-	-	-
EQT 36	GAC screening and transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 37	Mill area	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 38	Product Day Silo 1A Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 39	Product Day Silo 1B Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 40	Product Day Silo 1C Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 41	GAC Rail Storage Transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 42	Rail Product Storage Silo 1A receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 43	Rail Product Storage Silo 1B Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 44	Rail Product Storage Silo 1C Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 45	Rail Product Storage Silo 1D Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 46	Rail Product Storage Silo 1E Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 47	Rail Product Storage Silo 1F Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 48	Rail Product Storage Silo 1G Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 49	Rail Product Storage Silo 1A Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 50	Rail Product Storage Silo 1B Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 51	Rail Product Storage Silo 1C Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 52	Rail Product Storage Silo 1D Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 53	Rail Product Storage Silo 1E Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 54	Rail Product Storage Silo 1F Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 55	Rail Product Storage Silo 1G Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 56	Railcar Loading from Storage Silo 1A	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 57	Railcar Loading from Storage Silo 1B	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 58	Railcar Loading from Storage Silo 1C	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 59	Railcar Loading from Storage Silo 1D	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 60	Railcar Loading from Storage Silo 1E	lb/hr TPY	<0.01 <0.01	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 61	Railcar Loading from Storage Silo 1F	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 62	Railcar Loading from Storage Silo 1G	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 63	GAC Truck Storage Transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 64	Truck Product Storage Silo 1A Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 65	Truck Product Storage Silo 1B Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 66	Truck Product Storage Silo 1C Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 67	Truck Product Storage Silo 1D Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 68	Truck Product Storage Silo 1E Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 69	Truck Product Storage Silo 1F Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 70	Truck Product Storage Silo 1G Receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 71	Truck Product Storage Silo 1A Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 72	Truck Product Storage Silo 1B Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 73	Truck Product Storage Silo 1C Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 74	Truck Product Storage Silo 1D Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 75	Truck Product Storage Silo 1E Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 76	Truck Product Storage Silo 1F Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 77	Truck Product Storage Silo 1G Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 78	Truck Loading From Storage Silo 1A	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 79	Truck Loading From Storge Silo 1B	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 80	Truck Loading From Storage Silo 1C	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 81	Truck Loading from storage silo 1D	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 82	Truck Loading from Storage Silo 1E	lb/hr TPY	<0.01 <0.01	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 83	Truck Loading from Storage Silo 1F	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 84	Truck Loading form Storage Silo 1G	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 85	Coal Day Silo Transfers	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 86	Recycle Solids Blower	lb/hr TPY	<0.01 0.02	-	-	-	-	-
EQT 87	Recycle Solids Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 88	Lime Storage Silo Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 89	Solids Storage Silo Bin Vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 90	Solids Blower	lb/hr TPY	<0.01 0.02	-	-	-	-	-
EQT 91	Truck Loading from Solids Silo	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 92	MHF product mechanical conveyance	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 93	Lime Storage Silo Receiver	lb/hr TPY	0.06 <0.01	-	-	-	-	-
EQT 94	Screened MHF Product Blower	lb/hr TPY	<0.01 0.01	-	-	-	-	-
EQT 95	Cooling Tower (2-cell) No. 2	lb/hr TPY	0.41 1.48	-	-	-	-	-
EQT 96	MHF product blower	lb/hr TPY	0.02 0.05	-	-	-	-	-
EQT 97	GAC screening and transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 98	Mill area	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 99	Product day silo 2A bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 100	Product day silo 2B bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 101	Product day silo 2C bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 102	GAC rail storage transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 103	Rail product storage silo 2A receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 104	Rail product storage silo 2B receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 105	Rail product storage silo 2C receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 106	Rail product storage silo 2D receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 107	Rail product storage silo 2E receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 108	Rail product storage silo 2F receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 109	Rail product storage silo 2G receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 110	Rail product storage silo 2A bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 111	Rail product storage silo 2B bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 112	Rail product storage silo 2C bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 113	Rail product storage silo 2D bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 114	Rail product storage silo 2E bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 115	Rail product storage silo 2F bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 116	Rail product storage silo 2G bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 117	Railcar loading from storage silo 2A	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 118	Railcar loading from storage silo 2B	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 119	Railcar loading from storage silo 2C	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 120	Railcar loading from storage silo 2D	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 121	Railcar loading from storage silo 2E	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 122	Railcar loading from storage silo 2F	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 123	Railcar loading form storage silo 2G	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 124	GAC truck storage transfer	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 125	Truck product storage silo 2A receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 126	Truck product storage silo 2B receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 127	Truck product storage silo 2C receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 128	Truck product storage silo 2D receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 129	Truck product storage silo 2E receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 130	Truck product storage silo 2F receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 131	Truck product storage silo 2G receiver	lb/hr TPY	0.02 0.04	-	-	-	-	-
EQT 132	Truck product storage silo 2A bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 134	Truck product storage silo 2C bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 135	Truck product storage silo 2B bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 136	Truck product storage silo 2D bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 137	Truck product storage silo 2E bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 138	Truck product storage silo 2F bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 139	Truck product storage silo 2G bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 140	Truck loading from storage silo 2A	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 141	Truck loading from storage silo 2B	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 142	Truck loading from storage silo 2C	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 143	Truck loading from storage silo 2D	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 144	Truck loading from storage silo 2E	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 145	Truck loading from storage silo 2F	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 146	Truck loading from storage silo 2G	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 147	Coal day silo transfers	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 148	Recycle solids blower	lb/hr TPY	<0.01 0.02	-	-	-	-	-
EQT 149	Recycle solids bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-

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ID No.	Description		PM_{10}	SO_2	NO_X	CO	VOC	H_2SO_4
EQT 150	Lime storage silo bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 151	Solids storage silo bin vent	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 152	Solids blower	lb/hr TPY	<0.01 0.02	-	-	-	-	-
EQT 153	Truck loading from solids silo	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 154	MHF product mechanical conveyance	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 155	Lime storage receiver	lb/hr TPY	0.06 <0.01	-	-	-	-	-
EQT 156	Screened MHF product blower	lb/hr TPY	<0.01 0.01	-	-	-	-	-
EQT 157	Coal unloading area	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 158	Coal crusher area	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 159	Coal Storage	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 160	EP-157 AC Hg Adsorption System	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 161	EP-257 AC Hg Adsorption System	lb/hr TPY	<0.01 <0.01	-	-	-	-	-
EQT 162	EP-904 Emergency Fire Water Pump	lb/hr TPY	0.79 0.03	0.74 0.03	11.16 0.465	2.40 0.10	0.89 0.04	-
FUG 1	FS-001 Plant Haul Roads	lb/hr TPY	1.14 1.24	-	-	-	-	-

Streamlined Equipment Leak Monitoring Program

Not applicable.

MACT Requirements

RREP is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51.

NSPS Requirements

RREP is subject to the following NSPS:

- NSPS – Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

- NSPS – Subpart Y – Standards of Performance for Coal Preparation Plants

Air Quality Analysis

Air quality modeling was performed for PM_{10}, CO, SO_2, and NO_x in order to determine compliance with the National Ambient Air Quality Standards (NAAQS) and the Class II PSD Increment. Modeling results showed compliance with all applicable standards for PM_{10}, CO, SO_2, and NO_x.

Pollutant	Averaging Period	Preliminary Screening Concentration ($\mu g/m^3$)	Level of Significant Impact ($\mu g/m^3$)	Significant Monitoring Concentration ($\mu g/m^3$)	Background ($\mu g/m^3$)	Maximum Modeled Concentration ($\mu g/m^3$)	Modeled + Background Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Modeled PSD Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
PM_{10}	24-hour	9.32	5	10	59	16.53	75.53	150	16.53	30
	Annual	7.71	1						8.15	17
SO_2	3-hour	49.68	25	-	70.69	237.76	308.45	1300	235.68	512
	24-hour	18.48	5	13	20.94	43.54	64.48	365	43.18	91
	Annual	2.72	1	-	7.85	4.53	12. 28	80	4. 37	20
NO_X	Annual	2.07	1	14	9.41	3.90	13.31	100	2.99	25
CO	1-hour	22.67	2000	-	NR	NR	NR	40,000	NR	-
	8-hour	14.57	500	575	NR	NR	NR	10,000	NR	-
NR = Not required										

A Class I area impact analysis was performed to determine the affect of this proposed project on the Caney Creek Wilderness Area, which is the nearest Class I area. This Class I area is located approximately 269 kilometers from the Red River Environmental Products, LLC Facility.

The protocol for the Class I area impact analysis was reviewed by the Federal Land Manager of the Caney Creek Wilderness Area and the Department. Initial comments from the review were incorporated and the protocol was approved by the Federal Land Manager and the Department. The Class I area impact analysis included air quality impact, deposition impact, and visibility impairment analyses. The results of these analyses showed an insignificant impact on air quality. None of the modeled pollutants exceeded their respective significance impact levels. The deposition flux was estimated to be below significant threshold levels for both nitrogen and sulfur. The visibility impairment was modeled to be less than five (5) percent in all 24-hour periods. As a result of this analysis, there was no predicted adverse impact on air quality or visibility and no adverse impact as a result of deposition.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

Per 40 CFR 60.6(f) and LAC 33:III.507.I, permit shields have been determined for the proposed permit. Compliance with the PSD-LA-727 permit and NSPS, 40 CFR Part 60, Subpart Db, including the monitoring, recordkeeping and reporting requirements of Subpart Db, constitutes compliance with LAC 33:III.Ch.15, including operations during periods of startup, shutdown, and malfunction. Both the PSD permit and the NSPS requirements are federally applicable requirements that are more stringent and overlapping with the Ch. 15 requirements. Compliance with the PSD limits ensures that the unit achieves Best Available Control Technology ("BACT") and New Source standards which are more stringent than the Reasonably Available Control Technology requirements of Ch. 15.

VI. PERIODIC MONITORING

RREP will perform all of the monitoring requirements of 40 CFR 60, Subpart Db for the Multi-Hearth Furnances (EQT 1 and EQT 2).

RREP will perform all of the monitoring requirements of 40 CFR 60, Subpart Y for the following sources: EP-901 Coal Unloading Area (EQT 157), EP-902 Coal Crusher Area (EQT 158), and EP-903 Coal Storage (EQT 159).

Federal regulation 40 CFR 64-Compliance Assurance Monitoring is applicable to this facility. The following emission sources with pollution control equipment have a pre-control emission rate for PM/PM_{10}, Carbon Monoxide, and VOC's over 100 tons per year and were determined to require a CAM Plan: Multi-Hearth Furnances (EQT 1 and EQT 2).

Baghouses will be utilized to control PM/PM_{10}. Daily visual inspections will be performed as detailed in the specific requirements to ensure compliance.

Afterburners will be installed to control Carbon Monoxide and VOC emissions. Temperature and excess oxygen in the afterburners will be monitored and recorded as detailed in the specific requirements to ensure compliance.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.